

SNC Reference Number
(enter if previously assigned)

080148

PROJECT SUMMARY

County: Nevada, Placer, and El Dorado Counties

Applicant: Natural Heritage Institute

Project Title: Restoring Natural Reservoirs: Determining Priority Actions in the Sierra Nevada

PROJECT GOAL

The overall goals of this Sierra-wide project is two-fold:

- 1) to evaluate the role that meadow restoration in the Sierra Nevada might play in providing natural infrastructure with multiple benefits, including increased storage capacity, wetland habitat, longer grazing seasons, and better water quality, and
- 2) to develop and apply a methodology to prioritize meadow restoration actions that can be implemented Sierra-wide

PROJECT SCOPE

The scope section should clearly describe the nature and extent of the work to be completed with SNC grant funds, including any applicable quantitative information on project area and whether the work to be funded by the SNC is part of a larger project. Applicants should identify the role of any project partners, major project tasks, specific work products, and/or any other benchmarks. This section should also address the desired outcomes of the SNC portion of the project and, if applicable, how they fit into larger project goals. Finally, this section should include information on any other sources of funds or in-kind support committed or received that would be necessary to accomplish the project goal.

The State of California is taking aggressive steps based both in legislation and agency policies to respond to climate change predictions. Many are also calling for the construction of new or "enhanced" dams to provide increased capacity to catch earlier runoff that – according to climate change data and predictions – will no longer be held in mountain snowpack. Alongside of these proposals, alternatives to these new dams need to be considered. The overall goals of this Sierra-wide project, entitled: Restoring Natural Reservoirs: Determining Priority Actions in the Sierra Nevada, is two-fold: 1) to evaluate the role that meadow restoration in the Sierra Nevada might play in providing natural infrastructure with multiple benefits, including increased storage capacity, wetland habitat, longer grazing seasons, and better water quality, and 2) to develop and apply a methodology to prioritize meadow restoration actions that can be implemented Sierra-wide.

The project is structured to proceed in a strategic manner with six Phases: 1) development of comprehensive integrated methodology for meadow assessment; 2) development of Sierra-wide Meadows Database; 3) Initial Quantification of Meadow Benefits and Development of Rapid Health Assessment and Prioritization Methodology; 4) Application of Prioritization Methodology Sierra-wide; 5) Restoration of Priority Meadows and Quantification of Benefits; 5) On-Going Monitoring and Adaptive Management.

Phase I was funded by USEPA and was completed in 2006. Funded by Department of Water Resources, Phase II will be completed in October 2008. With this proposal, we request funding from SNC for Phase III: Initial Quantification of Meadow Benefits and Development of Rapid Health Assessment and Prioritization Methodology. Tasks for this Phase include: 1) management and performance measures; 2) develop a health assessment methodology; 3) apply health assessment methodology and ground-truth the status and health of meadows in two watersheds in the Sierra; 4) develop an estimate of increased groundwater storage capacity of meadows if restored; 5) develop a multi-criteria prioritization methodology; 6) apply methodology to two watersheds and formulate a priority list of the 20 most restorable meadows across these watersheds, develop implementation plan, and document and disseminate process.

The information generated from this project will provide critical strategic direction as we consider the meadow restoration alternative to providing resiliency in the face of climate change, and will also provide a model for other watersheds in the Sierra as they move forward with prioritizing meadow restoration actions. The cost of no action associated with this project is high; without scientifically-backed strategic direction, meadow restoration projects will proceed in a piece-meal and haphazard manner with the potential of wasting scarce restoration funding. Specific deliverables will include:

- 1) Rapid Health Assessment Methodology
- 2) Methodology for Prioritizing Sierra Meadow Restoration for Sierra-wide application
- 3) Prioritization of Meadow Restoration in two Sierra Watersheds
- 4) Quantification of Water Supply Benefits from Meadow Restoration
- 5) Restoration Plan for Priority Meadows
- 6) Increased Capacity of Watershed Groups to Monitor and Assess Meadow Health

The total budget for this project is \$239,200 which is based on a detailed budget by task and organization which is attached to this proposal. NHI and partners are requesting \$179,200 from the Sierra Nevada Conservancy. Match of 25% (\$60,000) will be provided through a combination of in-kind sources using existing equipment, trained citizen monitors, and funding from DWR.

The project team is fully capable of all aspects of project management to ensure successful implementation. Natural Heritage Institute (NHI) will provide overall project management and technical skills and experience. American Rivers is also fully staffed to implement this program, including providing strategic direction

and technical input to many of the project tasks. Stillwater Sciences will build on their experiences in Phase I and II of this project and assist with the development of the assessment methodology and the prioritization methodology. Sacramento State University will conduct an analysis of potential groundwater storage capacity in these watersheds based on prior work in the Feather and Bear River Watersheds. The Foothill Conservancy, El Dorado National Forest, SYRCL, and Tahoe National Forest will assist in reviewing and ground-truthing the health of meadows in their watersheds and will also assist in developing a priority restoration list.

LETTERS OF SUPPORT

Dave Weixelman, USFS - Tahoe National Forest
 Chris Wright, Foothill Conservancy
 Gary Reedy, SYRCL
 Amy Merrill, Stillwater Sciences
 Elizabeth Soderstrom, American Rivers
 Kevin Cornwell, Sacramento State University

SNC PROJECT DELIVERABLES AND SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Final Report (Task 1)	May 1, 2011
Meadow Health Assessment Methodology (Task 2)	Sept 30, 2009
Detailed Meadow Health Assessment Implementation Instructions (Task 2)	March 1, 2010
Health Assessment Data Entered in Database (Task 3)	Sept 30, 2010
Natural Reservoir Potential Report (Task 4)	Dec 31, 2010
Prioritization Methodology Technical Memo (Task 5)	Dec 31, 2090
Powerpoint Presentation of Methodology and Application (Task 6)	Dec 31, 2010

SNC PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Personnel Services	\$25,000
	\$
Supplies	\$200
Telephone/Fax	\$350
Travel	\$1,000
Subgrants	\$152,650
	\$
	\$
	\$
	\$
SNC GRANT TOTAL	\$179,200